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Aster pseudoglehni (Asteraceae), a New Species from Korea

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Aster pseudoglehni, formerly misidentified as *A. glehni* or *A. glehni* var. *hondoensis* in Ullung Island, Korea, is described and illustrated. This species is most similar to but differs markedly from *A. ageratoides* by petiolate median leaves with 8–20 pairs of serrate teeth and multinerved veins, and compact corymb-like capitulescences consisted of more than 40 heads.

Key words: *Aster*, Asteraceae, Korea, new species.

Ullung Island, a volcanic island located in East Sea between Korean Peninsula and Japan Islands, contains about 700 species of vascular plants (Sun and Stuessy 1998). *Aster glehni* F.Schmidt was first reported in this island by Nakai (1919). Since then, most Korean taxonomists have considered this taxon as a unique floristic element in Ullung Island, Korea, and have not examined its taxonomic identity, except for the consideration as *A. glehni* var. *hondoensis* Kitam. by several Korean taxonomists. However, *A. glehni* is distributed only in Sakhalin and the Kuril Islands of Russia and Hokkaido of Japan (Tamamshyan 1959), northeastward far from Ullung Island, and its variety is only in Honshu of Japan (Ito 1995). It was confirmed that the plants, known as *A. glehni* or *A. glehni* var. *hondoensis*, are misidentified, and should be described as a new species.

Aster pseudoglehni Lim, Hyun & Shin sp. nov. [Fig. 1]

Type : Korea. Kyungpook. Ullung Island. near a road along the foot of mountains, ca. 300 m NE of Seokmundong, Namyang-ri, Seo-myeon, 5 Oct. 2002, Lim 2002002 (Holotype SNU; Isotypes AJOU, SNU).

Paratypes. Korea. Kyungpook. Ullung Island. Seo-myeon, Sataenam, 2 Nov. 2000, Hyun & Kim s. n. (AJOU [6 sheets]), Namyang-ri, Namseodong, 5 Oct. 2002, Lim 2002021 (AJOU); Ullung eup, Sadong-ri, Sadong Gogae, 5 Oct. 2002, Lim 2002026 (AJOU), Sadong-ri, Kanryung, 5 Oct. 2002, Lim 2002022 (AJOU [2 sheets]), Jeodong-ri, Naesueon, 5 Oct. 2002, Lim 2002034 (AJOU).

Haec species ab *Astere ageratoidete* var. *ageratoidete* differt foliis medianorum petiolatis, dentibus 8–20-jugatis, multinervibus nec trinervibus, capitibus plus quam 40, ca. 1.5 cm diametro, dispositis in corymbis compositorum.

Herbs perennial; apically branched, 40–100 cm tall; rhizomes creeping, short; stems erect, terete, glabrous, 3–5 mm diameter. Leaves simple, alternate; rosette leaves puberulent, blades narrowly elliptic to obovate, 3–5 cm long, 1–3 cm wide, acute at

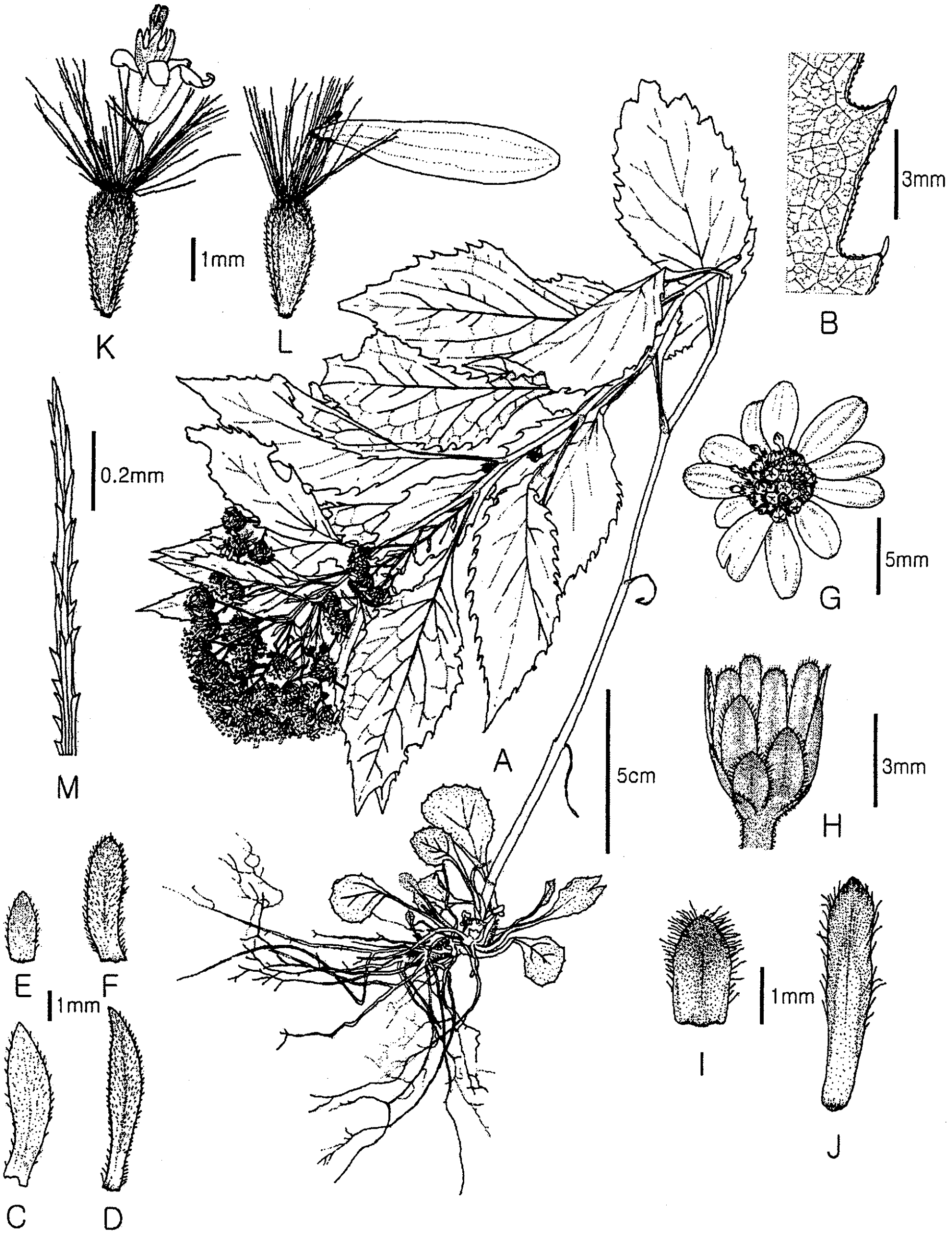

Fig. 1. *Aster pseudoglehni* Lim, Hyun & Shin. A. Habit. B. Leaf margin, abaxial surface. C–F. Bracts, C and D, below the corymb, E and F, below the head. G. Head. H. Involucre, removed the floral part. I. Outer phyllary. J. Inner phyllary. K. Disk floret. L. Ray floret. M. Pappus. Drawn from Lim 2002002 (holotype, SNU).

apex, attenuate to base, margins mucroserrate or irregulaly dentate, petioles 2–9 cm long; lower leaves usually withering before anthesis; median leaves elliptic to oblanceolate, 8–20 cm long, 4–7.5 cm wide, apex acute, base attenuate or cuneate, margins irregular serrate with 8–20 pairs of teeth, sometimes irregularly mucro-serrate, both surfaces glabrous or rarely strigose, margins strigose, veins several, petioles 1–4 cm long; upper leaves elliptic or narrowly elliptic, 1.3–5 cm long, 0.5–2 cm wide, apex acute, base attenuate, both surfaces glabrous or rarely strigose, margins strigose, petioles shorter than 5 mm or sessile. Heads ca. 1.5 cm across, more than 40 and densely arranged in a corymb; peduncles puberulent, bracts narrowly elliptic or lanceolate, 2–8 mm long, 0.5–2 mm wide, acute at apex, sessile, puberulent. Involucres campanulate, 4–5 mm long, 3–4 mm wide, 4–7 mm when dry; phyllaries 3–4-seriate, unequal in size, outer phyllaries elliptic to ovate, 1.6–2.5 mm long, 0.6–1.2 mm wide, acute at apex, margins pubescent, scarious in lower portions, adaxial surfaces dark green, verrucose at apex, inner phyllaries pale green, narrowly elliptic to oblong, 4–4.5 mm long, 0.6–1 mm wide, acute or obtuse at apex, apex and margins scarious, later splitted and hairy. Ray florets 10–13, 8–9.5 mm long; ligules white or rarely pale pink, 4–6 mm long, 1–2.5 mm wide, 3(–4)-veined, shortly 2-3-lobed at apex; tubes green 1.5–2.4 mm long, ca. 0.2 mm wide, glabrous. Disk florets yellow, 38–52, funnel-form, 5.5–6.5 mm long; upper tubes campanulate, 1.6–2 mm long, 1.6–2.3 mm wide, glabrous, 5-lobed, lobes lanceolate, acute at apex; lower tubes 1.5–2.3 mm long, ca. 0.3 mm wide, glabrous. Ovary oblanceolate to obovate, 1.2–2.1 mm long, 0.3–0.6 mm wide, compressed, puberulent, hairs ca. 0.2 mm long. Achenes obovate, 2.4–2.7 mm long, 0.9–1.2 mm wide, puberulent, hairs ca. 0.2 mm long, 2–3-ridgged, pappus 3.5–4 mm long.

Distribution: The species has been collected only in Ullung Island, Korea. In this island, the plants of this species grow mainly near the seaside.

Habitat: It occurs throughout Ullung Island, from the seaside to higher altitude, ca. 500 m above sea level, and from open land to forest. The plants occurred at forest have larger leaves and taller stems than those at seaside, and those at open land has more or less strigose and smaller leaves. The forests inhabited by *Aster pseudoglehni* consists of *Fagus multinervis* and *Acer okamotoanum*, and the floor was occupied by *Campanula takesimensis*, *Solidago virgaaurea* var. *coreana*, *Dystaenia takesimensis* and *Hedera rhombea*.

The plants of *Aster pseudoglehni*, misidentified as *A. glehni* or *A. glehni* var. *hondoensis* until now, do not coincide with the description of *A. glehni* or any of the infraspecific taxa or correspond with the specimens collected in Russia and Japan and identified as *A. glehni*, either: *Aster glehni*, described by Schmidt (1868), and var. *hondoensis*, described by Kitamura (1935) have pubescent leaves and phyllaries, and their bracts below the heads are lanceolate to linear, stems are 70–150 cm tall, outer phyllaries and inner are nearly equal in length. However, those of *A. pseudoglehni* have the unequal phyllaries, and the glabrous leaves and phyllaries except their margins.

In the sense of Flora of Japan (Ito 1995), USSR (Tamamshyan 1959) and China (Ling et al. 1985), *Aster pseudoglehni* is assignable to Section Aster, Section Ageration Tamamsch. and Section Orthomeris A.Gray, respectively, in having flat achenes, pappus shorter than corolla of disc floret, inner phyllaries longer than outer, campanulated involucre, heads arranged in compound corymbs and 1–3 cm in diameter. On the other hand, *A. glehni* has been placed in Section Amellus Nees (Tamamshyan 1959) or Section Aster (Ito 1995). Among the numerous taxa of above three sections, *Aster ageratoides* Turcz. is most similar to this species in having olbong-lanceolate leaves, 2–3-seriated phyllaries, and small heads (1.5–3 cm across) (Ohwi 1984, Kitamura 1981). It is known that *A. ageratoides* in

Table 1. Morphological comparisons between *Aster pseudoglehni* and *A. ageratoides* var. *ageratoies*

Character	*A. pseudoglehni*	*A. ageratoides* var. *ageratoies**
Stem pubescence	glabrous	glabrescent or scarcely pubescent
Median leaf		
shape	elliptic or oblanceolate	lanceolate or oblong-lanceolate
vein	multinerved	distinctly 3-nerved
number of teeth pair	8–20	3–9
Head		
arrangement	compact corymb	loose corymb
number of head	more than 40	3 to numerous
diameter	ca. 1.5 cm	0.6–1.2 cm
Phyllary		
arrangement	3–4-seriate	2–3-seriate
color	dark or pale green	green or purplish

*Based on the description of Ito (1995).

Japan is consisted of five (Ito 1995) to 12 (Ohwi 1984) infraspecific taxa, and these infraspecific taxa were mainly identified by the size of involucres and heads, the length and width of cauline leaves, the shape of leaf base and apex, and have occupied the narrowly limited areas as the endemics of Japan. Of them, *A. ageratoides* var. *ageratoides* is very similar to *A. pseudoglehni* in having more or less glabrous stems and leaves. However, *A. pseudoglehni* clearly differs from *A. ageratoides* var. *ageratoides* in petiolated median leaves with 8–20 pairs of serrate teeth and several veins, and compact corymb-like compound infloresences consisted of more than 40 heads (Table 1). Whereas, all infraspecific taxa of *A. ageratoides* in China, consisted of 11 taxa, have the pubescent leaves. In Korea and USSR, *A. ageratoides*, without infraspecific designation, has been described to have hairs on upper and lower leaf surface and stem, blue-purple ray florets, and differs from *A. pseudoglehni* with glabrous leaves and stem, and white ray florets.

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林　容錫，玄　眞旿，申　鉉哲：**韓国産シオン属の 1 新種 *Aster pseudoglehni*（キク科）**

韓国ウルルン（鬱陵）島からキク科シオン属の 1 新種，*Aster pseudoglehni* Lim, Hyun & Shin を記載した．*Aster pseudoglehni* はシロヨメナ *A. ageratoides* Turcz. var. *ageratoides* に最も似ているが，中部の茎葉には三行脈ではなく多数の羽状脈があること，鋸歯は 8–20 対あること，葉柄が明瞭に認められること，頭花は直径約 1.5 cm で 40 個以上が密集して散房状の複合花序につくこと，総苞片は 3–4 列であることなどで区別される（Table 1, Fig. 1）．本植物は，かつてウルルン島産のエゾゴマナ *A. glehni* F.Schmidt var. *glehni* あるいはゴマナ *A. glehni* var. *hondoensis* Kitam. と誤認されたきた植物である．

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